

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WISCONSIN**

FISHER-BARTON BLADES, INC.,

Plaintiff-Counterdefendant,

v.

Case No. 05-C-460

**BLOUNT, INC.,
DIXON INDUSTRIES,
and FREDERICK MANUFACTURING CORP.,**

Defendants-Counterclaimants.

DECISION AND ORDER

BACKGROUND

The Plaintiff, Fisher-Barton Blades, Inc. (“Fisher-Barton”), filed this patent infringement action for declaratory judgment, an award of damages, and injunctive relief against the Defendants, Blount, Inc. (“Blout”); Dixon Industries, Inc. (“Dixon”); and, Frederick Manufacturing Corp. (“Frederick”) – (collectively the “Defendants”). The Defendants filed a counterclaim against Fisher-Barton for declaratory judgment of patent non-infringement, invalidity, and unenforceability, and an award of attorney fees pursuant to 35 U.S.C. § 285.

Two closely related patents are at issue in this litigation, U.S. Patent Nos. 5,899,052 and 5,916,114 (the “‘052 patent,” and the “‘114 patent,” respectively). The patents pertain to high hardness boron steel rotary blades used in lawn mowers, and agricultural and off-

highway rotary cutter blades. The patents have substantively identical specifications.¹ The ‘052 patent has three claims. The ‘114 patent has eleven claims.

On October 19, 2006, this Court issued a Decision and Order construing disputed claim terms. The Court held that each claim of the ‘052 and ‘114 patents requires a “rotary cutting blade.”² (Court’s October 19, 2006, Decision and Order 6.) The Court also rejected the Defendants’ proposed construction of rotary cutting blade as a “cutting implement with an anvil-less rotary cutting arrangement.” (*Id.* at 8.)

On November 14, 2006, this Court issued a Decision and Order granting the Defendants’ Rule 7.4 expedited motion to modify its October 19, 2006, *Markman* order to the extent a transcription error at page 15 of the *Markman* order was corrected. In all other respects the Defendants’ Rule 7.4 expedited motion to modify was denied.

The matter is now before the Court on the Defendants’ motion for summary judgment of invalidity of the ‘052 patent.³ The Defendants maintain that the inventions of the ‘052 patent do not satisfy two of the three requirements for patentability because they are anticipated by the prior art and obvious in light of the prior art. The Defendants also assert that the ‘052 patent is invalid under the on-sale bar of 35 U.S.C. § 102(b).

¹Darrell Turner (“Turner”), vice president of engineering at Fisher-Barton, filed the parent application for the ‘052 and the ‘114 patent on September 21, 1995. The patent examiner imposed a restriction requirement finding that the patent application recited claims for the process of making rotary cutting blades and claims for the rotary cutting blade products. In response, Turner elected to prosecute the “product” claims in the divisional application that led to the ‘052 patent and the “process” claims in the application that led to the ‘114 patent.

²The Court also construed four terms in the ‘114 patent: “austempering” as used in claim 1; “marquenching” as used in claim 4; and, “approximately” and “about” in claims 8 and 11. (Court’s October 19, 2006, Decision and Order at 10-11, 15, 21-22.)

³The Defendants filed a motion for summary judgment with respect to the ‘114 patent. However, the briefing on that motion is not complete.

Fisher-Barton opposes the motion, asserting that as an issued patent, the ‘052 patent carries a presumption of validity which can only be overcome by clear and convincing evidence and the Defendants have not demonstrated that the ‘052 patent is invalid as anticipated or obvious. Further, Fisher-Barton contends that the Defendants have not established that Frederick sold a product that meets all the limitations of the ‘052 patent more than one year before Turner filed his patent application. Fisher-Barton maintains that numerous disputes exist as to the material facts.

SUMMARY JUDGMENT STANDARD

When considering a motion for summary judgment, summary judgment “shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file, together with affidavits, if any, show that there is no genuine issue of material fact and that the moving party is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(c); *see also, Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986); *Celotex Corp. v. Catrett*, 477 U.S. 317, 324 (1986). A party “opposing a properly supported motion for summary judgment may not rest upon the mere allegations or denials of his pleading, but . . . must set forth specific facts showing that there is a genuine issue for trial.” *Doe v. Cunningham*, 30 F.3d 879, 883 (7th Cir. 1994) (quoting *Anderson*, 477 U.S. at 248; also citing *Celotex Corp.*, 477 U.S. at 324; *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 586-87 (1986); *United States v. Rode Corp.*, 996 F.2d 174, 178 (7th Cir. 1993)).

“Material facts” are those facts that under the applicable substantive law “might affect the outcome of the suit.” *See Anderson*, 477 U.S. at 248. A dispute over “material facts” is “genuine” if “the evidence is such that a reasonable jury could return a verdict for the

nonmoving party.” *Id.* The burden of showing the needlessness of a trial – (1) the absence of a genuine issue of material fact and (2) an entitlement to judgment as a matter of law – is upon the movant. In determining whether a genuine issue of material fact exists, the Court must consider the evidence in the light most favorable to the nonmoving party. *See Matsushita Elec. Indus. Co., Ltd.*, 475 U.S. at 587.

“In rendering a decision on a motion for summary judgment, a court must ‘view the evidence presented through the prism of the substantive evidentiary burden’ that would inhere at trial.” *Monarch Knitting Mach. Corp. v. Sulzer Morat Gmbh*, 139 F.3d 877, 880 (Fed. Cir. 1998) (quoting *Anderson*, 477 U.S. at 254). Summary judgment of invalidity, therefore, must be predicated on facts established by clear and convincing evidence. *Rockwell Int'l Corp. v. United States*, 147 F.3d 1358, 1362 (Fed.Cir. 1998).

The clear-and-convincing evidence standard requires that the party with the burden of proof place “in the ultimate factfinder an abiding conviction that the truth of its factual contentions are ‘highly probable.’” *Colorado v. New Mexico*, 467 U.S. 310, 316 (1984) (citing C. McCormick, *Law of Evidence* § 320, 679 (1954)). “This would be true, of course, only if the material it offered instantly tilted the evidentiary scales in the affirmative when weighed against the evidence offered in opposition.” *Id.* (citing McBaine, *Burden of Proof: Degrees of Belief*, 32 Calif. L. Rev. 242, 251-54 (1944)).

RELEVANT FACTS⁴

I. General Facts

In this lawsuit, Fisher-Barton asserts all the claims of the ‘052 patent against the Defendants. The ‘052 patent, which was filed on September 21, 1995, is directed to a “High Hardness Boron Steel Rotary Blade.” The invention is described as follows:

A rotary blade for a mower or cutter is formed from boron steel, such as 10B38 steel, and is heat treated to yield high hardness of 48 Rockwell C or above. The blade has increased hardness because of the heat treating, but due to the alloy composition, is still sufficiently tough to perform satisfactorily as a cutting blade, in particular to pass conventional impact tests.

(‘052 patent, Abstract). In the field of metallurgy, “hardness” refers to a metal’s resistance to wear, and “toughness” refers to its ability to withstand impact without shattering.

The ‘052 patent has two independent claims and one dependent claim. The language of the claims is as follows:

Claim	Fisher-Barton ‘052 Patent
1	[a] A rotary cutting blade
	[b] comprising a boron steel blank
	[c] raised through heat treatment to a Rockwell C hardness of between 48 and 55 on the Rockwell Hardness Scale

⁴Unless otherwise stated, the relevant facts are based on the Defendants’ proposed findings of fact (“Defs.’ PFOF”) and Fisher-Barton’s additional proposed findings of fact (“Pl.’s PFOF”) to the extent they are undisputed. Citations to quoted excerpts are included even if they are undisputed.

The parties agreed that the ‘052 patent would be incorporated by reference. (See Pl.’s Resp. Defs.’ PFOF ¶ 1.) However, the parties’ arguments do not address the entire patent. Therefore, that agreed proposed finding of fact has not been included in the statement of relevant facts.

The Defendants also presented additional factual material with their reply to Fisher-Barton’s response to their proposed findings of fact. They filed the Reply Declaration of Johnathan Mansfield proffering deposition excerpts and other documents, and the Reply Declaration of George Krauss. That factual material has been considered in determining whether there are disputed issues of material fact.

	[d] and a toughness of 15 ft-lb or higher on the Charpy Notched Impact Toughness Test per ASTM E-23.
2	The rotary cutting blade of claim 1 wherein the blank is formed of a boron steel selected from the group consisting of 10B36, 10B37, 10B38, 10B39, 10B40, 10B41 and 10B42 steel.
3	A mower comprising
	[a] a rotary cutting blade
	[b] formed of a boron steel blank
	[c] raised through heat treatment to a Rockwell C hardness of between 48 and 55 on the Rockwell Hardness Scale
	[d] and a toughness of 15 ft-lb or higher on the Charpy Notched Impact Toughness Test per ASTM E-23,
	[e] the blade being rotatably mounted for cutting action.

(‘052 Patent, 5:14-6:13.)

II. Anticipation and Obviousness

A. The ‘041 Patent

United States Patent Number 2,586,041 (“‘041 patent”) is entitled “Low-Alloy, High Hardenability Steel with High Toughness at High Hardness Levels,” and was issued on February 19, 1952, from an application filed on April 6, 1951, by inventors John M. Hodge (“Hodge”) and Richard D. Manning (“Manning”).

1. Claim Limitation 1[a]: “A rotary cutting blade”

The ‘041 patent specification discloses that steels that are tough and hard are needed for a variety of applications. “Some typical examples in which high toughness at high

strength is required include . . . rock-drill bits for pneumatic tools, and perforating guns for oil well equipment.⁵

2. Claim Limitation 1[b]: “comprising a boron steel blank”

The ‘052 patent claims blanks made from “boron steels,” which it defines as “steel alloys containing quantities of boron.” (‘052 patent, 3:23-25.)⁶

3. Claim Limitation 1[c]: “raised through heat treatment to a Rockwell C hardness of between 48 and 55 on the Rockwell Hardness Scale”

The ‘041 patent discloses heat treatment to a Rockwell C hardness of between 45 and 54.5 on the Rockwell C scale. This range is encompassed by the ranges claimed in element 1[c] of ‘052 patent and this limitation is literally met.⁷

4. Claim Limitation 1[d] “And a Toughness of 15 ft-lb or Higher on the Charpy Notched Impact Toughness Test per ASTM E-23”

Element 1[d] is literally met by the ‘041 patent disclosure that “after heat treatment, V-notch Charpy-bar impact strengths of about 25 to 28 ft.-lbs., at room temperature are characteristic of this steel” (‘041 patent, 2:54-3:2), and by Table III and Table IV in the specification.

⁵There is a genuine dispute of material fact between the parties whether “rock-drill bits” are a type of rotary cutting blade. (See Defs.’ PFOF ¶¶ 6-9; Pl.’s Resp. Defs.’ PFOF ¶¶ 6-9.)

⁶There is genuine dispute of material fact between the parties whether “boron steels” are disclosed in the ‘041 patent. (See Defs.’ PFOF ¶ 11; Pl.’s Resp. Defs.’ PFOF ¶ 11.)

⁷This statement is based on paragraph 13 of the Defendants’ proposed findings of fact which is undisputed. The proposed finding of fact states: “This range **encompasses** the ranges claimed in element 1[c] of the ‘052 patent.” (Defs.’ PFOF ¶ 13.) (emphasis added.) The Court has revised the sentence to state that the range **is encompassed by** the claimed ranges of the ‘052 patent. As reworded, the statement is more accurate because the hardness range of ‘041 patent falls within the hardness range of the ‘052 patent.

5. Claim 2

Claim 2 of the ‘052 patent depends from claim 1 and adds the additional element that the boron steel blank is selected from a specified group of boron steels, consisting of 10B36, 10B37, 10B38, 10B39, 10B40, 10B41, and 10B42 steel.⁸ Each member of this group differs from the other only according to the carbon content, which is indicated by the last two digits of the designation; e.g., 10B36 contains 0.36 percent carbon, and 10B37 contains 0.37 carbon.

The steels designated and claimed in the ‘041 patent contain from 0.22 to 0.37 percent carbon, and from 0.003 to 0.0006 percent boron.⁹

6. Claim 3

Claim 3 is for a mower comprising a rotary cutting blade that is identical to that of claim 1, and in which the blade is “rotatably mounted for cutting action.”¹⁰

7. Obviousness in light of the ‘041 patent

According to the ‘041 patent, it is important in applications such as rock-drill bits and perforating guns for oil-well equipment to have high impact toughness and high hardness.

⁸This statement is based on paragraph 15 of the Defendants’ proposed findings of fact which is undisputed. However, the Court corrected a typographical error – 10B39 has been substituted for 10B29.

⁹A genuine dispute of material fact exists regarding whether the ‘041 patent discloses boron steels. (See Defs.’ PFOF ¶ 18; Pl.’s Resp. Defs.’ PFOF ¶ 18.)

¹⁰There is a genuine dispute of material fact regarding whether the ‘041 patent discloses a rotary cutting blade. (See Defs.’ PFOF ¶¶ 21 & 22; Pl.’s Resp. Defs.’ PFOF ¶¶ 21 & 22.)

The ‘052 patent also notes that it is important for a rotary cutting blade to be hard and tough.¹¹

B. The *ASM Handbook*, 1990-91 edition

The *ASM Metal Handbook* (the “*ASM Handbook*” or “*Handbook*”), published by ASM International, is a “multi-volume work” that addresses a “wide variety of topics.” (Krauss Decl. ¶ 12.) The *Handbook* is recognized as a reference in the field of metallurgy. At the time of the priority date of the patents-in-suit, the latest edition of the *Handbook* had been published in 1990 and 1991, at least four years prior to the filing date of the patent application for the patents-in-suit.

The *ASM Handbook* is widely used by heat treaters and others who are considering how to achieve “blades with certain characteristics.” (Krauss Aff. ¶ 13.) The *ASM Handbook*, is often the first reference that one would consult when trying to find the solution to a particular problem. Turner, inventor of the ‘052 patent, has stated that he regularly consults the *ASM Handbook* and that he has heard it referred to as the “bible” of heat treating.

1. Claim Limitation 1[a]: “A rotary cutting blade”

A skilled artisan trying to achieve high hardness and high toughness in rotary cutting blades would consider an austempering process and would, therefore, be motivated to examine the *ASM Handbook*’s chapter about austempering.¹² This is shown in the *ASM*

¹¹There are genuine disputes of material fact regarding qualifications of one with ordinary skill in the art of the ‘052 patent, whether the ‘041 patent is within the scope of the prior art relevant to the ‘052 patent, whether it discloses boron steel, and whether it teaches away from boron steels. (See Defs.’ PFOF ¶¶ 23-24, 27-30; Pl.’s Resp. Defs.’ PFOF ¶¶ 23-24, 27-22.)

¹²The *ASM Handbook* defines “austempering” as “the isothermal transformation of a ferrous alloy at a temperature below that of pearlite formation and above that of martensite formation.” (Court’s October 19, 2006, Decision and Order 10.)(Citations omitted). It further states that steel is austempered by being:

heated to a temperature within the austenizing range, usually 790° to 915° C (1450° to 1675° F); quenched in a bath maintained at a constant temperature, usually in the range

Handbook, which notes that “Austempering is particularly applicable to thin-section carbon steel parts requiring exceptional toughness at a hardness between 40 and 50 HRC [i.e., Rockwell C hardness].” The austempering chapter of the *ASM Handbook* then specifically discloses a “lawn mower blade” that achieves a RC Hardness of 50, which is well within the patented range.¹³

2. Claim Limitation 1[b]: “comprising a boron steel blank”

A skilled artisan would have known to look at and consider the *ASM Handbook*’s chapter on the Notch Toughness of Steels because such a person would have understood in 1995 (the time of the invention of the ‘052 patent) that Charpy V-notch toughness was an appropriate measure for determining whether a lawnmower blade could resist sudden impact with large objects, such as rocks or sprinkler heads, without shattering that might be unsafe.

Page 741 of the *Handbook* chapter entitled “Notch Toughness of Steels” states:

Boron. *For quenched and tempered steels, a practical way of improving toughness without reducing strength is to use a boron-containing steel with a lower carbon content.* As shown in Fig. 16, 10B21 steel has greater toughness than 1038 steel at all strength levels. However, the benefit of boron is applicable only to

of 260° to 400° C (500° to 750° F); allowed to transform isothermally to bainite in this bath; and, cooled to room temperature.

“Martensite” is a generic term for the microstructure formed by diffusionless phase transformation in which the parent and product phases have a specific crystallographic relationship. (Court’s October 19, 2006, Decision and Order 10 n.5 (quoting George Krauss, *Steels: Heat Treatment and Processing Principles*, 462 (ASM Int’l 1990).) Pearlite is a higher temperature transformation product. (Court’s October 19, 2006, Decision and Order 10 n.4 (quoting Krauss, *Steels: Heat Treatment and Processing Principles* at 267).) Bainite is a transformation product that may form just above M_s. (*Id.* at 10 n.6 (quoting Krauss, *Steels: Heat Treatment and Processing Principles* at 267).)

¹³There is a genuine dispute of material fact between the parties regarding whether the “lawn mower blade” referenced in the *Handbook* is a rotary cutting blade. (See Defs.’ PFOF ¶ 34; Pl.’s Resp. Defs.’ PFOF ¶ 34.)

quenched and tempered steels; boron reduces the toughness of as-rolled, as-annealed, and as-normalized steels.¹⁴

ASM Handbook, 741 (ASM Int'l 1991)(emphasis added.) (Krauss Decl. ¶¶ 14, 19 & Ex. B 741.) Figure 16 on page 741 of the *Handbook*¹⁵ shows the tensile strength of steels containing boron at particular Charpy V-notch toughness.¹⁶ Figure 16 on page 741 only discloses steels with tempered martensite structures.¹⁷

3. Claim Limitations 1[c] and [d]: “[c] raised through heat treatment to a Rockwell C hardness of between 48 and 55 on the Rockwell Hardness Scale” and [d] and a Toughness of 15 ft-lbs or Higher on the Charpy Notched Impact Toughness Test per ASTM E-23.

Tensile strength correlates directly with the hardness of steel.¹⁸

¹⁴Paragraph 36 of the Defendants' proposed findings of fact omitted the final sentence of the quoted material. Based on Fisher-Barton's objection to the omission, the Court has added the final sentence of the quoted material.

¹⁵Figure 16 is reproduced in the attachment to this Decision and Order.

¹⁶The *ASM Handbook* explains that “toughness is an indication of the capacity of steel to absorb energy and is dependant upon strength as well as ductility.” (Krauss Decl. ¶ 14, Ex. B 739). “Notch toughness” is “an indication of the capacity of steel to absorb energy when a stress concentrator or notch is present.” (*Id.*)

The *Handbook* states that a number of notched impact tests have been developed to screen and rate steel product toughness on a relative basis and to determine the ductile to brittle transition for a specific carbon or high-strength low-alloy (“HSLA”). (*Id.*) The most widely used notched impact test is the Charpy V-notch test which is ASTM specification E 23. (*Id.*)

¹⁷There is a genuine dispute of material fact between the parties regarding whether the *Handbook* “teaches away” from using boron steel as it is used in the ‘052 patent. (See Defs.' PFOF ¶¶ 36-41; Pl.'s Resp. Defs.' PFOF ¶¶ 36-41.)

¹⁸There is a genuine dispute of material fact between the parties regarding whether the entire quoted portion of page 741 “teaches away” from using boron steel as it is used in the ‘052 patent. (See Defs.' PFOF ¶¶ 37-41; Pl.'s Resp. Defs.' PFOF ¶ 37-41.) There are also genuine disputes of material facts regarding the proper interpretation of Figure 16. (*Id.*)

4. Claim 2¹⁹

5. Claim 3²⁰

6. Obviousness over the combination of the Hodge ‘041 patent
and the ASM Handbook, 1990-91 edition

A skilled artisan in the art of rotary cutting blades who was considering hardness and toughness would consult the “bible” of heat treating, the *ASM Handbook*. As previously stated, Turner, inventor of the ‘052 patent, regularly consults the *ASM Handbook* and refers to it as the “bible” of heat treating.²¹

III. ON-SALE BAR UNDER 35 U.S.C. § 102(B)

The earliest filing date of the ‘052 application was September 21, 1995. Accordingly, the relevant date for determining whether the ‘052 patent is invalid due to the on-sale bar is September 21, 1994 (the “critical date”).

A. Frederick’s Production of Rotary Cutting Blades Meeting the Claims
of the ‘052 patent in 1993-94

Documents from Frederick and its heat-treating vendor, Superior Metal Treating

¹⁹There are genuine disputes of material fact regarding whether the entire quoted passage from the *ASM Handbook* “teaches away” from the use of boron steel as it is used in the ‘052 patent. (See Defs.’ PFOF ¶¶ 42-45; Pl.’s Resp. Defs.’ PFOF ¶¶ 42-45.)

²⁰There are genuine disputes of material fact regarding whether the lawnmower blade disclosed in the *ASM Handbook* discloses a rotary cutting blade. (See Defs.’ PFOF ¶¶ 46-47; Pl.’s Resp. Defs.’ PFOF ¶¶ 46-47.)

²¹There are genuine disputes of material facts relevant to a determination of obviousness. (See Defs.’ PFOF ¶¶ 49-52; Pl.’s Resp. Defs.’ PFOF ¶¶ 49-52.) These disputes include whether the *Handbook*’s austempering chapter refers to rotary cutting blades and whether the entire passage from the chapter on Notch Toughness of Steels teaches away from using boron steel as it is used in the ‘052 patent. Fisher-Barton also has presented evidence of secondary considerations of nonobviousness.

& Equipment (“Superior”) show that in 1993 Frederick made 1,045 rotary cutting blades from 10B38 steel, which were assigned part number 91-395 (the “91-395 blades”). Glen True (“True”), the owner of Superior, heated the 91-935 blades in 1993.

A “Lawnmower Blade Rockwell Report” by Superior dated December 19, 1993, shows that Superior heat-treated 11 racks of the 91-395 blades.²² Ten of the racks contained 50 blades each. One of the racks held 44 blades. As a part of its quality assurance, after heat treatment, Superior selected three 91-395 blades from each rack to test for hardness and found that the blades from racks three and six had a hardness of 48 and 49 Rockwell C. Racks three and six contained 50 blades each. Thus, 100 blades out of 544 were treated by Superior to a hardness of 48 and 49.²³

Turner states that because these two batches were the only two out of approximately 20,000 to be associated with a line-worker’s log entry of that hardness and based upon his personal industry experience with hands-on heat-treating, it is as likely that the hardness test was either improperly done or inaccurately recorded as it is that Frederick accidentally treated two batches of blades to 48 Rockwell C. (Turner Decl. ¶ 9.)

²²There is a genuine dispute of material fact regarding the process used by Frederick to produce the December 13, 1993, 91-935 blades. (See Defs.’ PFOF ¶ 58; Pl.’s Resp. Defs.’ PFOF ¶ 58.)

²³There is a genuine dispute of material fact regarding whether heat treating 10B38 steel to elevate the hardness to a hardness between 48 and 55 on the Rockwell hardness scale inherently provides a Charpy V-Notch toughness of at least 15 ft-lbs. (See Defs.’ PFOF ¶¶ 57, 60-61; Pl.’s Resp. Defs.’ PFOF ¶¶ 57, 60-61.)

True recently heat-treated boron steel blades.²⁴ After the blades were heat-treated, Arrow Laboratory, Inc. (“Arrow”), an independent metallurgical laboratory in Wichita, Kansas, performed Rockwell C hardness and Charpy V-notch toughness tests on them. Arrow reported that several of the blades achieved values within the characteristics of the ‘052 patent, including one set of blades with a Rockwell C hardness of 49 and a Charpy toughness of 18.1 ft-lbs, and another set with a Rockwell C hardness of 50 and a Charpy toughness of 16.4 ft-lbs.

At his deposition, Krauss, the Defendants’ expert, testified that he considers True’s experiments unreliable because the steel provided by the supplier and used in the tests was out of specification. (Kusenberger Decl. ¶ 2, Ex. 2 (Krauss Dep.) 79.) However, Krauss also testified that the Charpy-V Notch testing would be “more reliable,” for specimens number 2 at 48 and 50²⁵ which were not shown to have delaminations. (Reply Decl. Mansfield ¶ 11, Ex. J (Krauss Dep.) at 91.)

B. Sale of Boron Steel Rotary Cutting Blades Before the Critical Date

During the relevant time period, Frederick’s standard practice was to use a first-in first-out (“FIFO”) inventory system. (Marcell Decl. ¶ 5.) Frederick’s shipping and invoice database indicates that it filled over 200 orders for part #91-395, totaling 5,300 blades (including the WO 07613 blades) prior to September 19, 1994. After the WO 07613 of December 19, 1993, Frederick’s records show that it made 2,599 units of part #91-395 by

²⁴There is a genuine dispute of material fact between the parties regarding whether the process to which the blades were subjected was the same. It is also unclear whether the same steel was used. Krauss testified that the delamination at the centerline as noted in the Arrow report shows “that the supplier of the steel had not properly cast it, top worked it, et cetera.” (Kusenberger Decl. ¶ 2, Ex. 2 (Krauss Dep.) 79.)

²⁵The reference to specimens 2 at 48 and 50 relates to the Arrow report. (See Brunk Decl. ¶ 3, Ex. A.)

March 25, 1994 (WO 09170), and 1,480 more units of the same part #91-395 by June 28, 1994 (WO 10303). Under Frederick's standard FIFO practice, the earlier blades from WO 07613 would have been the first to ship and would have shipped before the later work orders. Based on these facts, "it is highly probable that all of the WO 07613 blades had shipped well before September 19, 1994." *Id.* There is no record of a sale. (Kusenberger Decl. ¶ 5, Ex. 5 (Marcell Dep.) 60.)

Fisher-Barton's Additional Proposed Findings of Fact

In metallurgy, it is impressive when someone applies steel with known properties to a new application, particularly when the new application solves a problem that has been confronting a particular industry for some time. In the rotary cutting blade industry, rotary cutting blades that were above a hardness of 45 Rockwell C were previously considered unsafe due to potential breakage and the Defendants kept their boron steel blades under 45 Rockwell C and did not conduct Charpy V notch toughness testing. Confronting that problem and solving it by using boron steel coupled with precise parameters for both hardness and toughness is the type of research and development that is inventive in metallurgy and which moves the field forward.

John Perepezko ("Perepezko"), Fisher-Barton's expert, offers the opinion that a person with ordinary skill in the art of the '052 patent would have an undergraduate degree in metallurgical engineering, materials science, or a related field plus two or more years of

experience working in industry with a responsibility in relation to the development and heat treatment of rotary cutting blades.¹⁴

The ‘041 patent would provide one of ordinary skill in the art with guidance regarding the use of nickel alloys for rotary drill bits, but does not inform one in the art of this patent on the use of a high hardness, high toughness rotary cutting blade made with boron steel.

A 1995 Fisher-Barton laboratory notebook records boron steel rotary cutting blade stock hardened to a Rockwell C 54 that shows a toughness of less than 15 ft-lbs on the Charpy Notched Impact Toughness test. This test result demonstrates that toughness greater than 15 ft-lbs on the Charpy Notched Impact Toughness test is not inherent in boron steel rotary cutting blades raised through heat treatment to a Rockwell C hardness of between 48 and 55.

ANALYSIS

Relying on sections 102 and 103 of Title 35 of the United States Code, the Defendants assert that Fisher-Barton’s claims predicated on the ‘052 patent should be dismissed on summary judgment because the ‘052 patent is invalid as anticipated, as obvious, and due to the on-sale bar.

Anticipation

An invention is anticipated under 35 U.S.C. § 102(b) if it “was . . . patented or described in a printed publication in this . . . country . . . more than one year prior to the date of application for patent in the United States.” 35 U.S.C. § 102(b). The first step of an anticipation analysis is claim construction; the second step in the analysis involves a comparison

¹⁴This standard differs from that articulated by Krauss. The Defendants have submitted a Reply Declaration of Krauss stating that there is no material difference between his and Perepezko’s formulations of a person with ordinary skill in the art. (Krauss Reply Decl. ¶ 2.) However, Krauss’s opinion that there is no material difference between the two standards does not resolve the question of whether there is a material difference between the two formulations.

of the construed claim to the prior art. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1346 (Fed. Cir. 2000).

Anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention. *Apple Computer, Inc. v. Articulate Sys., Inc.*, 234 F.3d 14, 20 (Fed. Cir. 2000). Whether such art is anticipating is a question of fact. *Id.* Summary judgment on invalidity is appropriate when there are no material facts in dispute and the movant has established invalidity by clear and convincing evidence. *Helifix Ltd.*, 208 F.3d at 1346; *Oney v. Ratliff*, 182 F.3d 893, 895 (Fed. Cir. 1999) (“summary judgment is inappropriate if a trier of fact applying the clear and convincing standard could find for either party”).

To establish that a claim is anticipated under 35 U.S.C. § 102(b), a party must present clear and convincing evidence that a single piece of prior art reference discloses, either expressly or inherently, each limitation of the claim. *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349 (Fed. Cir. 2002). A prior art reference may anticipate when the claim limitations not expressly found in that reference are nonetheless inherent in it. *Id.* at 1349-50 (citing *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342 (Fed. Cir. 1999); *Titanium Metals Corp. v. Banner*, 778 F.2d 775 (Fed. Cir. 1985)). See also, *Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003).

“Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates.” *In re Cruciferous Sprout Litig.*, 301 F.3d at 1349-50 (citations omitted). “Inherency is not necessarily coterminous with the knowledge of those of ordinary skill in the art. Artisans of ordinary skill may not recognize

the inherent characteristics or functioning of the prior art.” *In re Cruciferous Sprout Litig.*, 301 F.3d at 1349-50 (quoting *MEHL/Biophile Int’l Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed. Cir. 1999); *Atlas Powder*, 190 F.3d at 1347).

Claim Construction

The first step of anticipation analysis is claim construction. In its claim construction decision, the Court found that each claim of the ‘052 patent required a rotary cutting blade. (Court’s October 19, 2006, Decision and Order 6.) It also rejected the Defendants’ contention that a rotary cutting blade should be defined as “a cutting implement with an anvil-less rotary cutting arrangement.” Fisher-Barton had not offered a competing construction of the claim term. The Court did not expressly define the term “rotary cutting blade.” While “rotary cutting blade(s)” are involved in the Defendants’ assertions of patent invalidity, neither party has requested that the Court construe the term at this juncture. Thus, the Court compares the ‘052 claims to the prior art. When the Court has grouped the claims together for disposition, the issues of validity to be resolved as to those claims are substantively identical. *Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1370-71 (Fed. Cir. 2003).

Anticipation-‘041 Patent

The Defendants maintain that the ‘041 patent anticipates the ‘052 patent. However, there is a genuine dispute of material fact regarding whether “rock-drill bits” are a type of “rotary cutting blade.” Perepezko, Fisher-Barton’s expert, distinguishes between a rotary cutting blade and other rotary cutting tools, and articulates his reasons for distinguishing between these two types of tools. (Perepezko Decl. ¶ 7.)

There is also genuine dispute of material fact regarding whether “boron steels” are disclosed by ‘041 patent. Perepezko states that any discussion of boron steels must distinguish between steel alloys that are specifically boron steel and steel alloys that contain boron. (*Id.* at ¶ 9.) He avers that the prior art ‘041 patent does not disclose “boron steel” but instead discusses a steel alloy that is distinguished by the presence of nickel. (*Id.*) Perepezko states that the fact that the alloy also contains boron is incidental to the ‘041 patent and does not teach the use of boron steel to obtain a particular combination of hardness and toughness. (*Id.*)

These factual disputes are material because they preclude the Defendants from establishing that each of the limitations of the ‘052 patent are anticipated by the ‘041 patent. Specifically, because a rotary cutting blade is a limitation of claims 1 through 3 of the ‘052 patent, the factual dispute regarding whether a “rock drill bit” is a “rotary cutting blade,” precludes the Defendants from demonstrating they are entitled to summary judgment that claims 1 through 3 of the ‘052 patent are anticipated by the ‘041 patent.

Likewise, a “boron steel blank” is a limitation contained in claims 1 through 3 of the ‘052 patent. Therefore, the genuine dispute of material fact regarding the ‘041 patent’s disclosure of a “boron steel blank” prevents the Defendants from establishing upon summary judgment that the ‘041 patent anticipated that limitation of the ‘052 patent.

Anticipation - 1991 ASM Manual

The Defendants also assert that the ‘1991 *ASM Manual* anticipated the ‘052 patent. Again, there is a genuine dispute of material fact between the parties regarding whether the *Handbook* discloses rotary cutting blades. A rotary cutting blade is a limitation in all three claims of the ‘052 patent. Fisher-Barton also has produced evidence that this distinction is

significant because a rotary cutting blade moves much faster and is a much heavier piece of steel than a reel-type blade. (*See* Turner Decl. ¶ 8.)

Fisher-Barton also asserts that the *ASM Handbook* does not disclose a rotary cutting blade made from or comprising boron steel – it states that the only reference to any boron steel part is to a bolt that is made of 10B20 steel – a boron steel with a much lower boron content than any of the boron steels that make up the specific limitations of claim two of the ‘052 patent.¹⁵ (*See* Perepezko Decl. ¶ 5.) It maintains that there is no disclosure of boron steel in relation to rotary cutting blades in the *ASM Handbook*.¹⁶

The Defendants also rely on Figure 16 on page 741 of the *ASM Handbook*, which shows the tensile strength of 10B21 and 1038 steels at particular Charpy-V notch toughness. They assert that because the tensile strength of steel correlates directly with hardness, Figure 16 also inherently discloses the relationship of hardness and Charpy V-notch toughness. The Defendants rely upon Krauss’s opinion as establishing that one of ordinary skill in the art would understand from reviewing Figure 16 in light of the teachings of the *ASM Handbook* that a boron steel cutting blade could be raised through heat treatment to a Rockwell C hardness of between 48 and 55 on the Rockwell Hardness Scale and a toughness of 15 ft-lb or higher on the

¹⁵Fisher-Barton also maintains that the references to boron steel in the 1991 *ASM Handbook* teach away from using boron steel in a rotary cutting blade. (Pl’s Br. 3) However, “the question whether a reference ‘teaches away’ from the invention is inapplicable to an anticipation analysis.” *Celeritas Techs. v. Rockwell Int’l Corp.*, 150 F.3d 1354, 1361 (Fed. Cir. 1998) (“A reference is no less anticipatory if, after disclosing the invention, the reference then disparages it.”) Consequently, this argument does not raise a dispute of material fact as to the Defendants’ assertion of anticipation by the *Handbook*.

¹⁶In their reply brief, the Defendants state that Perepezko agrees that Figure 16 discloses all the limitations of claim 1 of the ‘052 patent except a “rotary cutting blade.” (Defs.’ Reply Br. 22 n.87 (citing Perepezko Dep. 155:1-4).) The cited deposition testimony is exhibit A to the Reply Mansfield Declaration and discusses a “chart.” Regardless, to find anticipation every limitation of the claimed invention must be disclosed. The genuine dispute of material fact regarding disclosure of the rotary cutting blade precludes on summary judgment the resolution of anticipation of the ‘052 patent by the *Handbook*.

Charpy Notched Impact Toughness Test per ASTM E-23 as claimed in the ‘052 patent. (See Krauss Decl. ¶ 24).

The “obvious shortcoming” of Figure 16 is that it does not expressly disclose the hardness of the 10B21 and 1038 steels. *See Finnigan Corp. v. Int’l Trade Comm’n*, 180 F.3d 1354, 1365 (Fed. Cir. 1999). As noted by Perepezko, figure 16 only discloses steel with tempered martensite structures, and there is no indication that these properties would be available without tempered martensite structures. Additionally, the 1995 Fisher-Barton laboratory notebook raises genuine disputes of material fact about the Defendants’ assertion that a Charpy V-notch toughness of greater than 15 ft-lbs is inherent in boron steel rotary cutting blades raised through heat treatment to a Rockwell C hardness of between 48 and 55.

At this juncture, construing the evidence in the light most favorable to Fisher-Barton, the Defendants have not presented clear and convincing evidence that any of the ‘052 patent claims are anticipated, either expressly or inherently, by the 1991 *ASM Handbook*.

Obviousness-‘041 Patent and 1991 ASM Handbook

In their initial brief, the Defendants maintain that ‘052 patent is invalid because it is obvious given the prior art of the ‘041 patent in combination with the 1991 *ASM Handbook*. However, in their reply brief, the Defendants state that their principal obvious argument is based on the *Handbook*.

With respect to obviousness, a claimed invention is unpatentable, “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103.

An issued patent is presumed valid, so obviousness must be established by clear and convincing evidence. *See, e.g., Takeda Chem. Indus., Ltd. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1355 (Fed. Cir. 2007); *Oakley, Inc. v. Sunglass Hut Int'l*, 316 F.3d 1331, 1339 (Fed. Cir. 2003).

The first step in infringement analysis is to determine the meaning of and scope of each claim in suit. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001). Only when a claim is properly understood can a determination be made whether the prior art renders obvious the claimed invention. *Id.*

KSR Int'l Co., 127 S.Ct. at 1727, which addressed obviousness, directs courts to the framework established in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966), for applying the statutory language of § 103. The Supreme Court emphasized an objective analysis that proceeds as follows:

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

Id. at 1734 (quoting *Graham*, 383 U.S. at 17-18.)¹⁷ In considering summary judgment on the question of obviousness, district courts should take into account expert testimony, which “may resolve or keep open certain questions of fact.” *See KSR*, 127 S.Ct. at 1745. A conclusory affidavit will not preclude summary judgment. *Id.* at 1745-46. “The ultimate judgment of obviousness is a legal determination.” *Id.* at 1745.

Obviousness is a question of law but its resolution “necessarily entails several basic factual inquiries.” *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 280 (1976). When determining obviousness, “neither the particular motivation nor the avowed purpose of the patentee controls.” *KSR*, 127 S.Ct. at 1741-42. Instead, courts should determine whether the “objective reach of the claim” encompasses obvious subject matter. *Id.* at 1742. This may include “noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent’s claims.” *Id.*

The Supreme Court stated that “the results of ordinary innovation are not the subject of exclusive rights under the patent laws.” *Id.* at 1746. However, it also cautioned that courts must avoid “falling prey to hindsight bias,” “*ex post* reasoning,” and “[r]igid preventative rules that deny factfinders recourse to common sense.” *Id.* at 1742-43. Furthermore, “when the

¹⁷The Supreme Court also held that the Federal Circuit had erred in its application of an approach referred to as the “teaching, suggestion, or motivation” test (“TSM test”), under which a patent claim is only proved obvious if “some motivation or suggestion to combine the prior art teachings” can be found in the prior art, the nature of the problem, or the knowledge of a person having ordinary skill in the art. *KSR*, 127 S.Ct. at 1734-35, 1741-42 (citing *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1323-1324 (Fed. Cir. 1999) (regarding the TSM test)). The Supreme Court indicated that, in subsequent decisions, the Federal Circuit Court of Appeals had “elaborated a broader conception of the TSM test than was applied” in the case before it. *KSR*, 127 S.Ct. at 1743(citing *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006) (“Our suggestion test is in actuality quite flexible and not only permits, but requires, consideration of common knowledge and common sense”); *Alza Corp. v. Mylan Labs., Inc.*, 464 F.3d 1286, 1291 (Fed. Cir. 2006) (“There is flexibility in our obviousness jurisprudence because a motivation may be found implicitly in the prior art. We do not have a rigid test that requires an actual teaching to combine”)). However, the Supreme Court stated that the extent to which those decisions may describe an analysis more consistent with its earlier precedents and *KSR* was a matter for the Court of Appeals to consider in its future cases. *KSR*, 127 S.Ct. at 1743.

prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.” *Id.* at 1740. “A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *Id.* at 1740. A combination is likely nonobvious if the elements work together “in an unexpected and fruitful manner.” *Id.* In contrast, a patent is likely to be obvious if it merely yields a predictable result by substituting one element for another known in the field. *Id.*

The Supreme Court explained “a combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 127 S.Ct. at 1731. When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or another. *Id.* “If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, § 103 likely bars its patentability. . . . A court must ask whether the improvement is more than a predictable use of the prior art elements according to their established principles.” *Id.*

In this instance, there are genuine disputes of material fact which preclude resolution of the issue of obviousness upon summary judgment. There is a genuine dispute of material fact as to whether the *ASM Handbook* “teaches away” from some aspect of the ‘052 patent. Generally, a reference is said to teach away when a person of ordinary skill in the art, upon reading the reference, would be discouraged from the path set out in the prior art or led in a direction divergent from the path taken by the applicant. See *In Re Gurley*, 27 F.3d 551,

552 (Fed. Cir. 1994); *see also KSR Int'l Co. v. Teleflex*, 550 U.S. ___, 127 S.Ct. 1727, 1740 (2007) (citing *United States v. Adams*, 383 U.S. 39, 51-52 (1966)).

Fisher-Barton has presented evidence to dispute the Defendants' contention that the *ASM Handbook* discloses the use of boron steel as a mean of achieving high hardness and high toughness. In seeking summary judgment, the Defendants relied upon a partial quotation of passage. Relying on Perepezko's opinion, Fisher-Barton maintains that when read in its entirety the passage "teaches away" from the use of boron steel as used in the '052 patent.

Perepezko also indicates that it was well known in the art that boron steel was difficult to work with and to heat treat to achieve high toughness and high hardness. Krauss disagrees. The Defendants have proffered documentary evidence with their reply brief in an attempt to demonstrate that "any problems with boron steel had been resolved well before the 1990's."

The parties have also offered competing expert opinions on the level of ordinary skill in the art. The Defendants have submitted Krauss's reply declaration stating that the differences in the two formulations are not material. However, Krauss's opinion on the question is not dispositive of the issue of the materiality of the dispute.

Perepezko states that one of ordinary skill in the art would have industry experience in the development and treatment of rotary cutting blades. Krauss's view differs from Perepezko's because Krauss indicates that one with ordinary skill in the art would have practical experience in heat treating steel to achieve particular characteristics. Alternatively, Krauss states that such a person would not have the otherwise agreed upon undergraduate degree, but would have several years of hands-on experience and an association, or familiarity,

with professional societies such as the ASM International. At this juncture, the Court is presented with factual disputes presented by the competing opinions of the parties' respective experts. The role of this Court on summary judgment is not to weigh the evidence or to resolve factual conflicts.

Moreover, Fisher-Barton has submitted evidence of secondary considerations which establishes that in the rotary cutting blade industry, rotary cutting blades that were above a hardness of 45 Rockwell C were previously considered unsafe due to potential breakage and that the Defendants kept their boron steel blades under 45 Rockwell C and did not conduct Charpy V notch toughness testing. Confronting that problem and solving it by using boron steel coupled with precise parameters for both hardness and toughness is the type of research and development that is inventive in metallurgy and which advances the field forward. Fisher-Barton has also introduced evidence of commercial success of the products which it has developed that are covered by the '052 patent (Wilkey Decl. ¶¶ 2-3) and that since the issuance of the '052 patent the Defendants are offering a blade with high hardness and high toughness. The foregoing evidence weighs against a finding of obviousness.

Fisher-Barton has also proffered evidence of additional secondary considerations, which if accepted by the trier of fact, could counter a finding of obviousness. (See Pl.'s Add'l PFOF ¶¶ 1-7, 21, 23.) While this evidence is disputed, construed in the light most favorable to Fisher-Barton, it could also contribute to a finding that the inventions disclosed by the '052 patent claims are not obvious.

Viewing the facts in the light most favorable to Fisher-Barton, the Defendants have not presented clear and convincing evidence establishing that the '052 patent is invalid,

as a matter of law, because it is obvious based on the ‘041 patent and the 1991 *ASM Handbook*.

On-Sale Bar

The Defendants also assert that the ‘052 patent is invalid under 35 U.S.C. § 102(b) because the claimed invention was offered for sale more than one year before the filing of the patent application. Fisher-Barton’s opposition to summary judgment on this ground states that the only undisputed fact is the “critical date,” September 21, 1994.

Section 102(b) of Title 35 of the United States Code provides: “A person shall be entitled to a patent unless . . . the invention was . . . in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States.” 35 U.S.C. § 102(b). The determination of whether an invention was on sale within the meaning of § 102 is a question of law. *Scaltech, Inc. v. Retec/Tetra, LLC*, 269 F.3d 1321, 1327 (Fed. Cir. 2001). The date exactly one year prior to the date of application for the patent is known as the critical date. *Id.* This type of a challenge to a patent’s validity is referred as the “on-sale” bar. *Pfaff v. Wells Elec., Inc.*, 525 U.S. 55, 57 (1998).

The Supreme Court has provided guidance in on this issue in *Pfaff*. *Pfaff*, 525 U.S. at 67, establishes two conditions that an invention must satisfy in order for the on-sale bar to apply. “First, the product must be the subject of a commercial offer for sale. . . . Second, the invention must be ready for patenting. [The second] condition may be satisfied in at least two ways: by proof of reduction to practice before the critical date; or by proof that prior to the critical date the inventor had prepared drawings or other descriptions of the invention that were sufficiently specific to enable a person skilled in the art to practice the invention.” *Id.*

In *Pfaff*, the Supreme Court affirmed the Federal Circuit's decision that the patent was invalid under § 102(b) because Pfaff's acceptance of a purchase order for a computer chip socket from a manufacturer prior to the critical date proved that a commercial offer for sale had been made and because the invention was ready for patenting as proved by the manufacturer's ability to produce the invention from the detailed drawings provided by Pfaff. *Id.* at 67-68.

The on-sale bar is evaluated on a claim-by-claim basis, so that some claims of a patent may be found to be barred while others are not. *Lough v. Brunswick Corp.*, 86 F.3d 1113, 1122 n.5 (Fed. Cir. 1996) ("Each claim of the patent must be considered individually when evaluating a public use bar."). Both conditions of the *Pfaff* test must be established by clear and convincing evidence. *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1352 (Fed. Cir. 2002) (bench trial). "The first prong of the *Pfaff* test involves a determination of whether a commercial offer for sale has occurred, applying traditional contract law principles." *Id.*

At this juncture, the Defendants have not presented conclusive proof of a sale of the December 19, 1993, # 91-395 blades before the critical date of September 21, 1994. However, evidence based on the FIFO inventory system showing that additional units of the #91-395 blades were manufactured by Frederick in March and June 1994, shows a high probability that the December 19, 1993, #91-395 blades were sold prior to the critical date. Despite construing the facts in the light most favorable to Fisher-Barton, the Court concludes that the first condition of *Pfaff* has been demonstrated by clear and convincing evidence.

However, Frederick did not perform the Charpy Notched Impact Toughness Test on any of the December 19, 1993, #91-395 blades. Therefore, there is no contemporaneous

evidence indicating whether the blades had a toughness of 15 ft-lbs or higher on the Charpy Notched Impact Toughness Test.

The Defendants have attempted to demonstrate through a recent experiment that December 19, 1993, #91-395 blades, had the toughness specified in the ‘052 patent. However, Fisher-Barton has raised issues regarding the reliability of True’s efforts to replicate the conditions under which the December 19, 1993, blades were produced, since the precise conditions which led to the production of those blades is unknown.

Furthermore, Krauss also determined that the steel supplied for the blades created by True in his attempt to replicate the December 19, 1993, #91-395 blades was out of specification and, therefore, in large part, True’s experiments were unreliable. Krauss’s opinion, proffered in reply, that the test results for a limited number of specimens was “more reliable,” still leaves the probative value of Arrow’s analysis of that subgroup of blades questionable. Additionally, Fisher-Barton has presented evidence from a 1995 laboratory notebook indicating that boron steel rotary cutting blades stock hardened to a Rockwell C 54 had a toughness of less than 15 ft-lbs on the Charpy Notched Impact Toughness test.

A rotary cutting blade raised to a toughness of 15 ft-lbs or higher on the Charpy Notched Impact Toughness Test is a limitation contained in claims 1 through 3 of the ‘052 patent. When the facts are construed in the light most favorable to Fisher-Barton, the Defendants have not established the second condition of *Pfaff* – that the claimed invention was reduced to practice before the critical date. Therefore, the Defendants have not met their burden of demonstrating by clear and convincing evidence that the ‘052 patent is invalid under the on-sale bar.

**NOW, THEREFORE, BASED ON THE FOREGOING, IT IS HEREBY
ORDERED THAT:**

The Defendants' motion for summary judgment (Docket No. 76) that the '052 patent is invalid, as anticipated and/or obvious under 35 U.S.C. § 102 and §103, respectively, and/or under the on-sale bar of 35 U.S.C. § 102(b), is **DENIED**.

Dated Milwaukee, Wisconsin, this 31st day of March, 2008.

BY THE COURT:

s/ Rudolph T. Randa
HON. RUDOLPH T. RANDA
Chief Judge